INSTRUCTIONS

-J01348 REV. 4-23-99

Kit Numbers 77173-99, 77174-99, 77175-99, 77208-99, 77209-99, 77210-99, 77211-99

FLHR CRUISE CONTROL KITS

General

The kits covered by this Instruction Sheet fit the following models:

Kit Number .....Model Fitment
77173-99 .....1996 FLHR
77174-99 .....1996 FLHRI
77175-99 .....1994-1995 FLHR
77208-99 .....1997 FLHR
77209-99 .....1998-1999 FLHR
77210-99 .....1997 FLHRI
77211-99 .....1998-1999 FLHRCI

See Service Parts page for kit contents.

⚠WARNING

Harley-Davidson, Inc. recommends that this kit be installed by a Harley-Davidson authorized dealer. Improper installation could cause cruise control malfunction, loss of control, and could result in death or serious injury.

Service Manual Required

This Instruction Sheet refers the installer to the appropriate FLT Service Manual for many procedures. Harley-Davidson recommends that you do not attempt to install this kit without having a copy of the Service Manual for your vehicle.

NOTE

A Service Manual for your vehicle is available from your Harley-Davidson Dealer.

INSTALLATION

Review the "CRUISE CONTROL-Ultra MODELS" section in the Service Manual before attempting to install this kit.

NOTE

When connector numbers such as "[22A]" are referenced, they identify connectors on wiring diagrams. Wiring diagrams are located at the rear of the FLT Service Manual, on the wiring diagram wallcharts, and in the Electrical Trouble Shooting Manual.

Cruise Control Module

⚠WARNING

To avoid personal injury, do not smoke or allow open flame or sparks anywhere in the area when working on fuel system components. Gasoline is extremely flammable and highly explosive under certain conditions, and may result in death or serious injury.

⚠WARNING

To avoid accidental start-up of motorcycle, and possible personal injury, disconnect the battery cables (negative cable first) before performing any of the following procedures. If the battery should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion resulting in death or serious personal injury.

1. Remove battery, left saddlebag, left sidecover, fuel tank, and air cleaner assembly following instructions in applicable Service Manual.

For 1997-1999 Models

2. See Figures 1. and 2. Identify mounting holes for cruise control module on left side of battery box.
3. See Service Parts illustration. Place grommets (6) through holes shown in Figure 1 or Figure 2 with large diameters on inside of battery box.

NOTE

The cruise cable will be installed on the cruise module in the kit. If cable is removed, refer to applicable Service Manual for correct reinstallation procedure.

4. See Figure 3. While feeding cruise cable and adjuster through hole in frame cross member, place cruise module in position shown.
5. See Service Parts. Install three flange nuts to secure cruise module to box. Tighten nuts to 9-11 ft-lbs. Proceed to step 9 on page 1.

For 1994-1996 Models

1. Drill cruise module mounting bracket using the template provided in this instruction sheet.
2. See Service Parts illustration. Remove the three studs from cruise module mounting holes and discard studs. Install module mounting bracket (21) onto module with grommets (6) and truss head screws (34).
3. Remove the fuse block, starter relay, and brake relay.
4. Remove the ignition switch harness connectors from mounting bracket under left sidecover, then remove mounting bracket and discard.
5. Drill two holes in battery tray bracket using the template provided in this instruction sheet.
6. See Figure 3. Place cruise module in position shown. The mounting bracket installed in step 2 has the same hole pattern as the old style module shown in Figure 6.
7. See Service Parts illustration. Secure module mounting bracket in place using washers (15) and screws (7) from kit. Tighten screws to 6 ft-lbs.

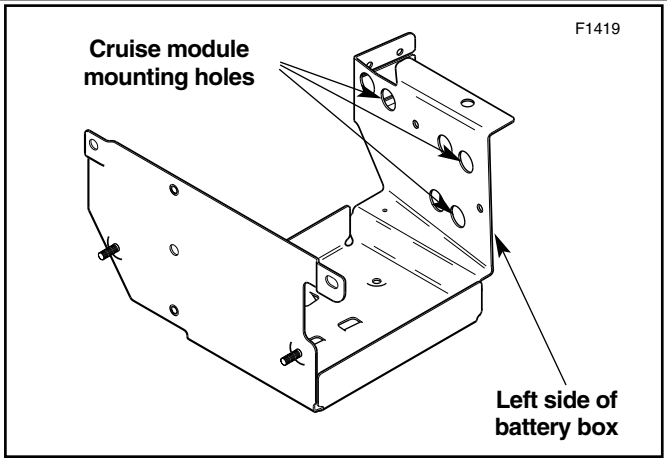


Figure 1
Cruise Module Mounting Holes for 1997 FLHRI 1998-1999 FLHR/C/I

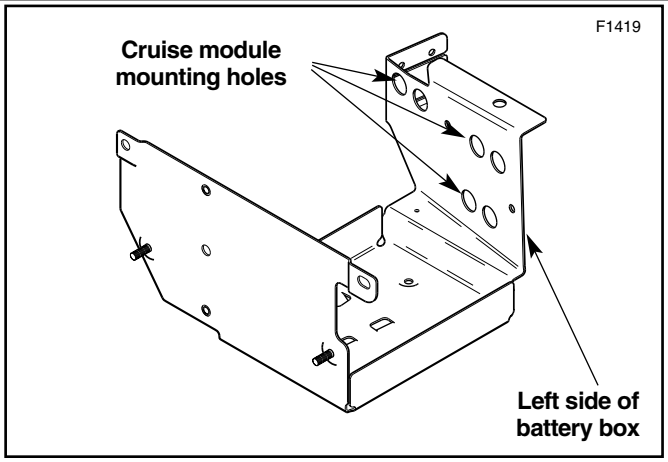
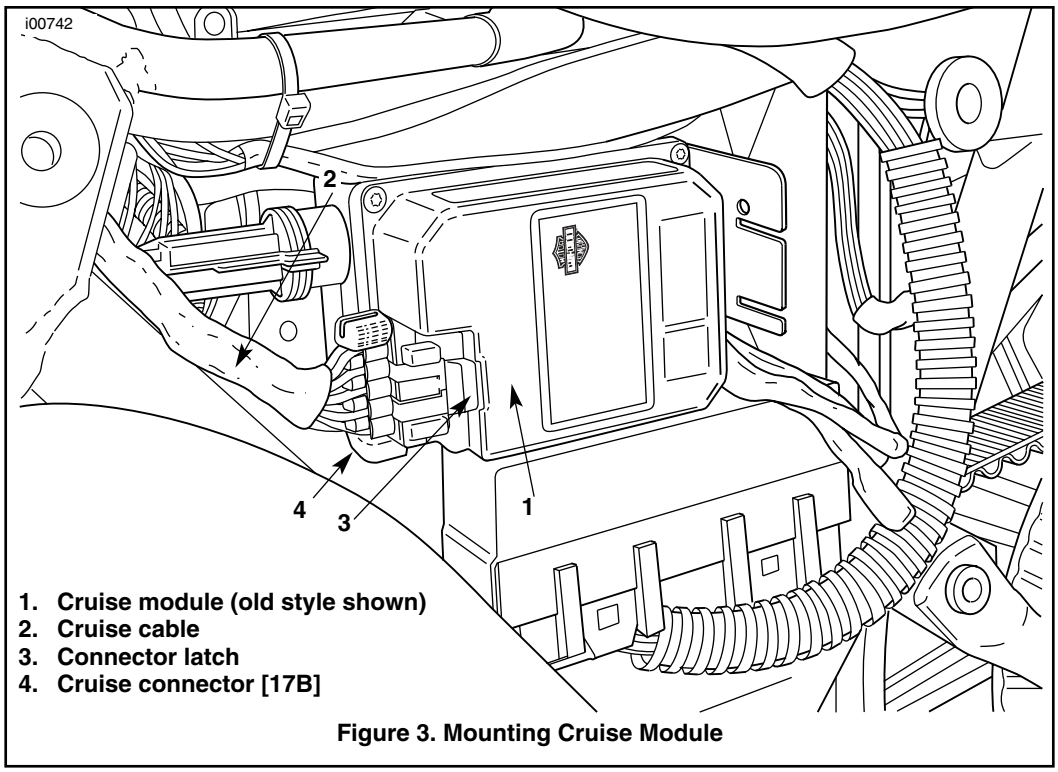


Figure 2
Cruise Module Mounting Holes for 1997 FLHR



1. Cruise module (old style shown)
2. Cruise cable
3. Connector latch
4. Cruise connector [17B]

Figure 3. Mounting Cruise Module

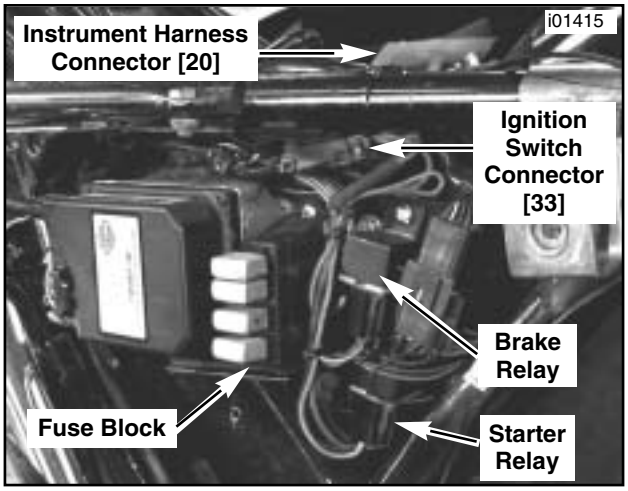


Figure 4.

8. Relocate the fuse block, starter relay, brake relay, instrument and ignition switch harness as shown in Figure 4.

9. Connect cruise cable to cruise module and route cable under rear cylinder spark plug wire; forward, above top engine stabilizer; and right to carburetor. Follow instructions in applicable Service Manual when connecting cruise cable to cruise module and carburetor.

NOTE

Saddlebag, sidecover, and air cleaner assembly should not be reinstalled at this time.

10. From left side of motorcycle, route the cruise cable under rear cylinder spark plug wire; forward, above top engine stabilizer; and then down between cylinder heads and right to induction module.

11. Follow Service Manual instructions to connect cruise cable to induction module.

12. See Figure 5. Install wire harness retainer on cruise cable and insert barb on clip into hole in frame. On Calif. models, remove EVAP hose from cable clip and secure hose with T-stud cable strap from kit in location shown.

Idle Control Cable - Throttle Adjusting Screw

1. Remove headlamp following the applicable Service Manual procedures.

2. Disconnect stock idle control cable from carburetor following instructions in Service Manual.

3. Remove upper and lower right handlebar switch housing screws.

4. See Figure 7. Loosen throttle adjusting screw (1), and remove friction spring (2) from groove in switch housing (3).

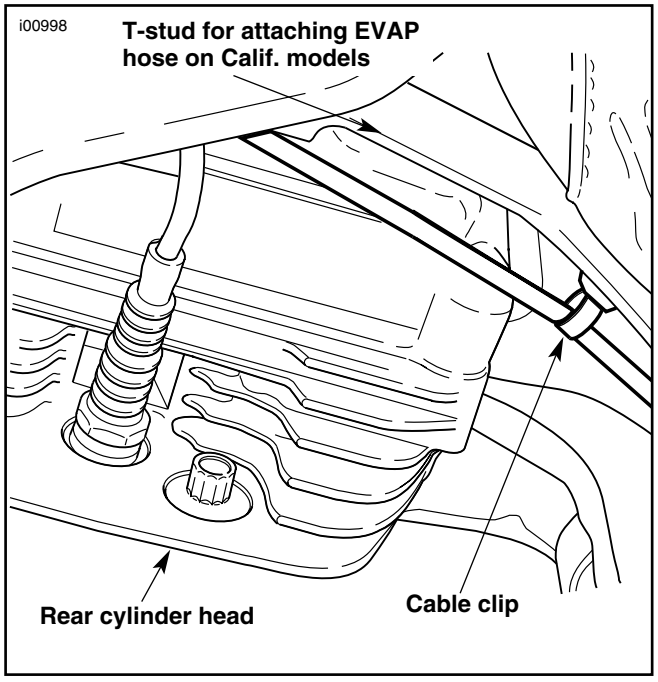


Figure 5. Attaching Cruise Cable Adjuster (Left Side View)

5. Remove retaining ring (4) from throttle adjusting screw (1) and remove spring (5) and screw (1) from lower switch housing (3).

6. Plug throttle adjusting screw tapped hole in switch housing (3) with pop rivet (6) and washer (7).

7. Discard throttle adjusting screw, spring, retaining ring and friction spring.

8. Remove idle control cable brass ferrule from notch in throttle grip. Retain brass ferrule for use later.

9. Follow instructions in Section 2 of applicable Service Manual to remove stock idle cable.

10. Follow instructions in Section 8, CRUISE CONTROL-THROTTLE CABLES, of applicable Service Manual and install the new idle control cable from kit.

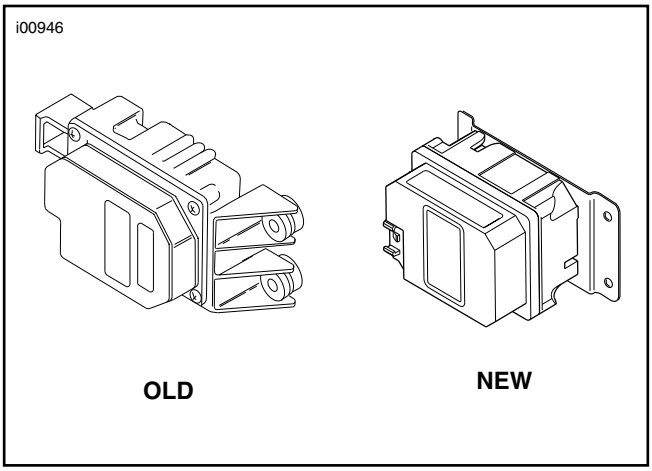
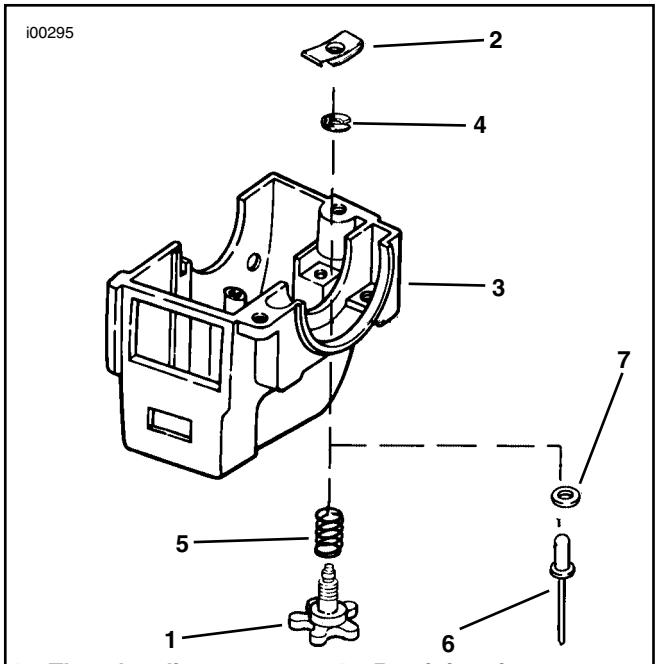


Figure 6. Cruise Control Modules



1. Throttle adjust. screw
2. Friction spring
3. Lower right switch housing
4. Retaining ring
5. Spring
6. Pop rivet
7. Washer

Figure 7. Throttle Adjusting Screw and Tapped Hole

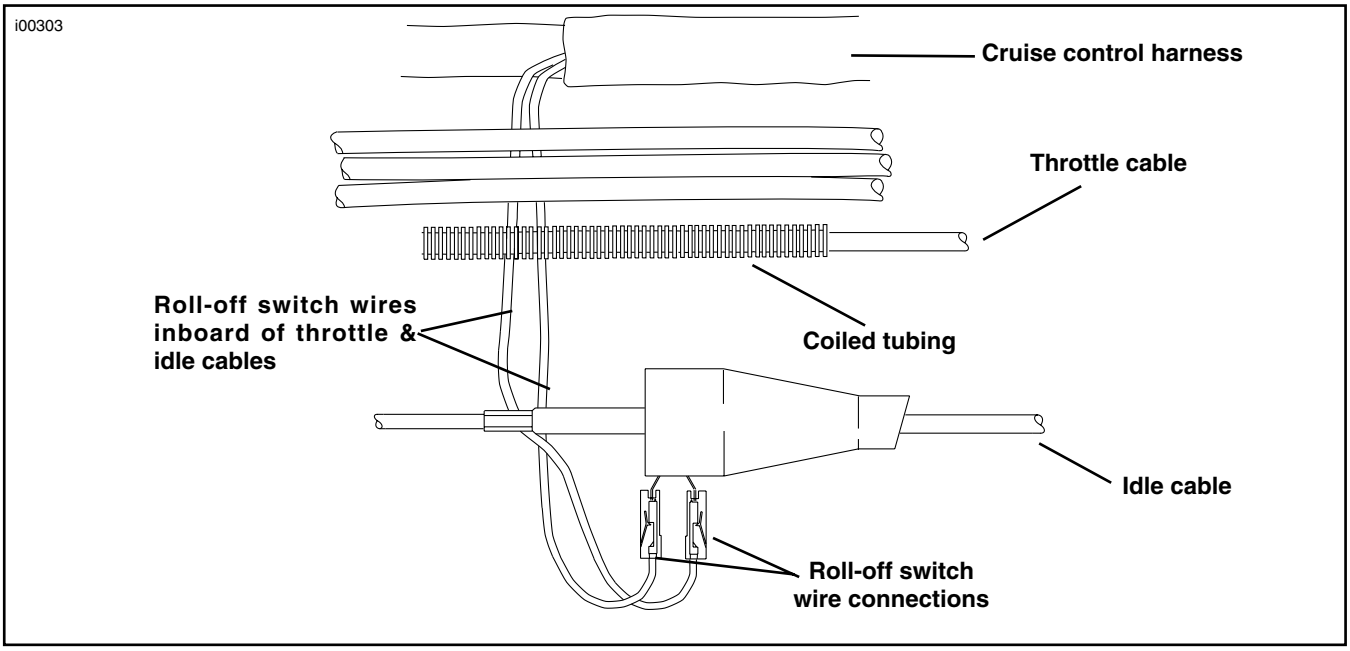


Figure 8. Throttle / Idle Cable and Roll-off Switch Configuration

11. Do not adjust throttle and idle cables now. The throttle, idle, and cruise cables will be adjusted after cruise control harness installation.

12. See Figure 8. Install the coiled tubing on the throttle cable from front to rear. Open the split in the tubing, place the tubing on the cable and feed tubing back through the frame clamp until the tubing end contacts the induction module cable guide.

Cruise Control Wire Harness

1. See Figure 9. Cruise control wire harness electrical connections.
2. See Figure 10. Place cruise control wire harness (1) in position shown.

   Connect 4-place connector (3) cruise control wire harness to accessory harness under seat.

   Connect cruise control wire harness (1) to cruise module (2) [17A].
3. Route cruise control wire harness (1) to right side of frame and then towards the front.
4. See Figure 11. Place cruise control wire harness along right side of frame backbone forward of seat.
5. See Figure 8. Position the roll-off switch wires as shown, and connect the terminals to the switch.
6. Splice into pink wire from connector [8A], using a sealed butt splice connector (23).
7. See Figure 9. Insert pink wire from cruise harness into empty position in connector [8A].
8. Remove instrument console following instructions in the applicable Service Manual.
9. Splice the white/green wire from the cruise control harness to the white/green wire of the speedometer using the sealed butt splice connector (23) provided in the kit.

Set/Resume Switch and Cruise Control Wire Harness Placement Into Handlebar Clamp

⚠CAUTION

Do not disconnect or remove the switch housing assembly without first placing a 5/32 inch thick cardboard insert or cable strap eyelet between the brake lever and lever bracket. Housing removal without an insert may result in damage to the rubber boot and plunger of the front brake light switch.

1. See Figure 17. Remove the two screws and washers (1) that secure the master cylinder clamp (2) and master cylinder (3) to the handlebar and remove master cylinder clamp (2). Discard the two screws and retain the washers for use later.
2. Remove from the kit and insert the escutcheon (4) into the set / resume handlebar clamp (5).
3. Insert switch (6) with side having two tabs (7) positioned as shown.
4. Press switch (6) into escutcheon (4) until it latches into position.
5. Install speednut (8), place actuator (9) on switch rod and press until actuator pins enter holes in switch tabs (10).

Set/Resume Switch Attachment to Handlebar Clamp

1. Cut the cable strap securing harnesses to right handlebar.

   Position cruise control harness on handlebar.

   Replace cable strap with one from kit.
2. See Figure 16. Attach handlebar clamp to master cylinder with the stock washers and two 1/4-20 x 1-5/8 in. hex socket button head screws from kit.

Set/Resume Switch Electrical Connections

1. See Figure 18. Begin Set/Resume switch electrical connections by inserting the wires and terminals (5) on the switch assembly harness into respective cavities of wire seal assembly (2) from kit.

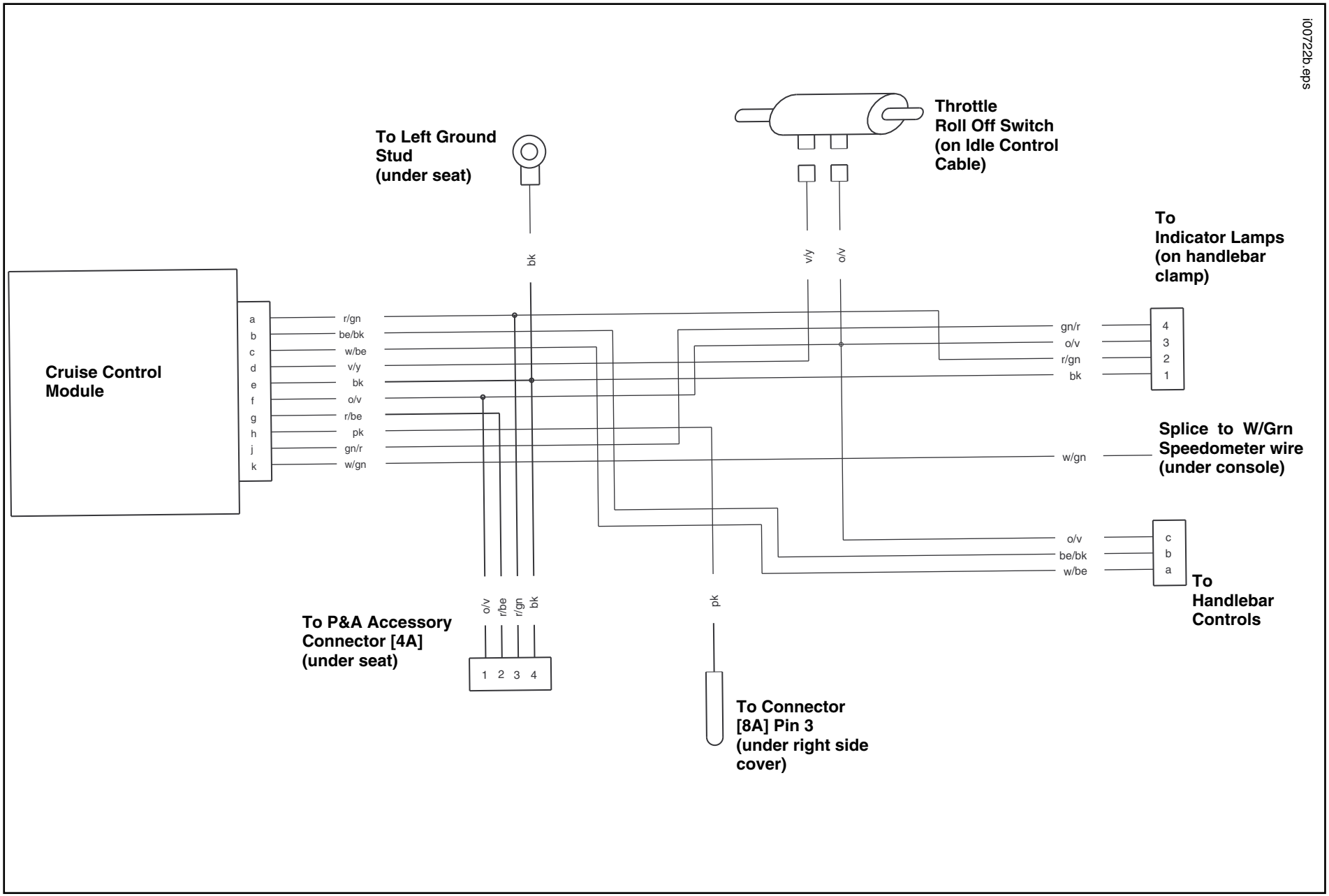


Figure 9. Electrical Connections

2. Insert the locking pin (1) with arrow (3) on pin (1) pointing toward the latch cover(4).

NOTE

If locking pin (1) does not "snap" into position, make sure all pin terminals (5) are fully inserted into the wire seal (2).

3. Install the locking pin (1) attachment clip in the dovetail (7) of the kit supplied pin housing (8).

4. Connect the two connector halves and attach the attachment clip to the T-stud on the inner side of the outer fairing bracket.

Cruise Control ON/OFF Switch

1. The accessory switch on the right hand side of the nacelle is used as the cruise control ON/OFF switch.

J-Clamp and Throttle Cable

1. See Figure 15. Using the sharp edge of a knife, carefully pull out the plastic plug in forward area of frame.

2. Install well nut from kit in hole. Install flat washer and J-clamp on screw. Start screw into well nut. With the loop of the clamp orientated at the top, tighten the clamp screw until snug.

3. Position the throttle control and idle control cables within the J-clamp. Pinch or press ends of clamp closed to contain cables.

Drilling Handlebar Clamp

1. Remove handlebar clamp per instructions in the applicable Service Manual.

2. Using drill template provided at the end of this instruction sheet, position on handlebar clamp making sure to align outer edges of template with outer edges of handlebar clamp. Use tape to hold in place.

3. Carefully center punch on centers of holes to be drilled.

4. Drill 1/16 in. pilot holes followed by 5/32 in. finished holes.

5. Slip lamps into drilled holes (red lamp on left, green lamp on right).

⚠CAUTION

Do not press on lamp when installing speednut. Press only on black housing or lamp may be damaged.

6. Place speednuts on indicator lamps.

7. Assemble wire leads into four place connector as shown in Figure. 12.

8. Connect pin connector to wiring harness.

9. Reinstall handlebar clamps as described in the appropriate Service Manual.

Cable Straps

1. See Figures 10, 11, and 13. Install cable straps as shown.

2. See Figure 14. Attach cruise cable to frame by installing T-stud clip with cable strap (1) and place the T-stud clip on T-stud.

3. Check that all wires and harnesses are located away from hot or moving parts.

Adjust Throttle, Idle, and Cruise Control Wire Harness

1. Refer to the "CRUISE CONTROL - THROTTLE CABLES" section in Section 8 of the applicable Service Manual and adjust the throttle, idle control cable and cruise cables.

2. Reinstall saddlebag, right side cover, and air cleaner assembly.

3. Adjust cruise cable last in accordance with the procedure in the applicable Service Manual.

NOTE

Numbers in brackets are connector numbers used in wiring diagrams.

1. **Cruise control wire harness**
2. **Cruise control wire harness connection to cruise module [17A]**
3. **Cruise control wire harness connection to main harness [6A]**
4. **Rear fender connector [7]**
5. **Cruise cable to carburetor**

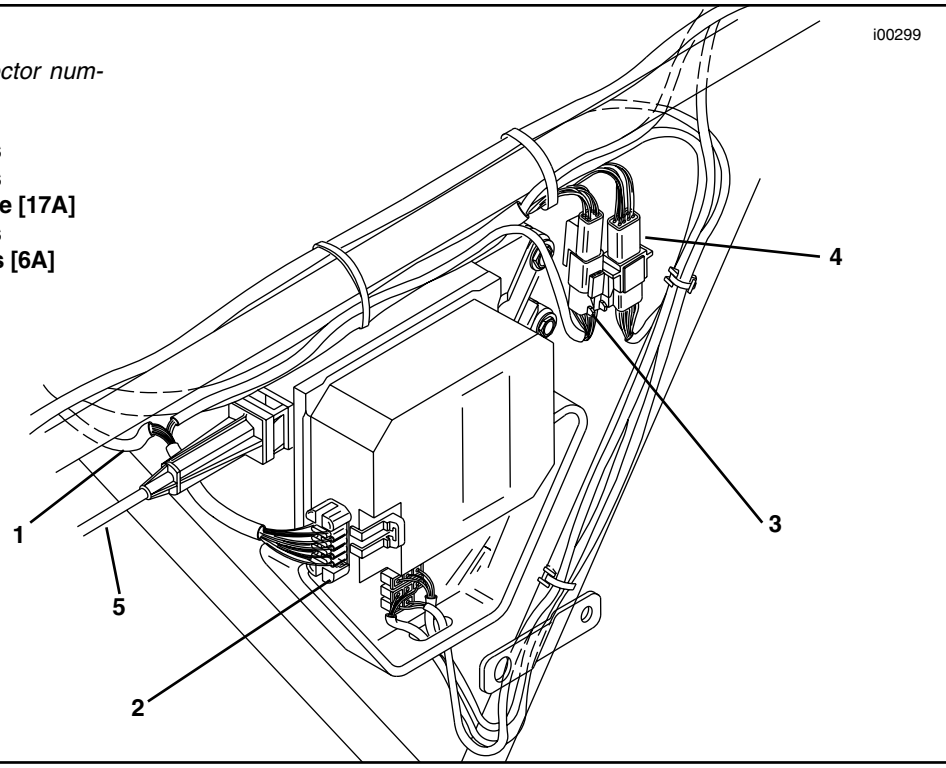


Figure 10. Cruise Control Wire Harness Connections at Cruise Module

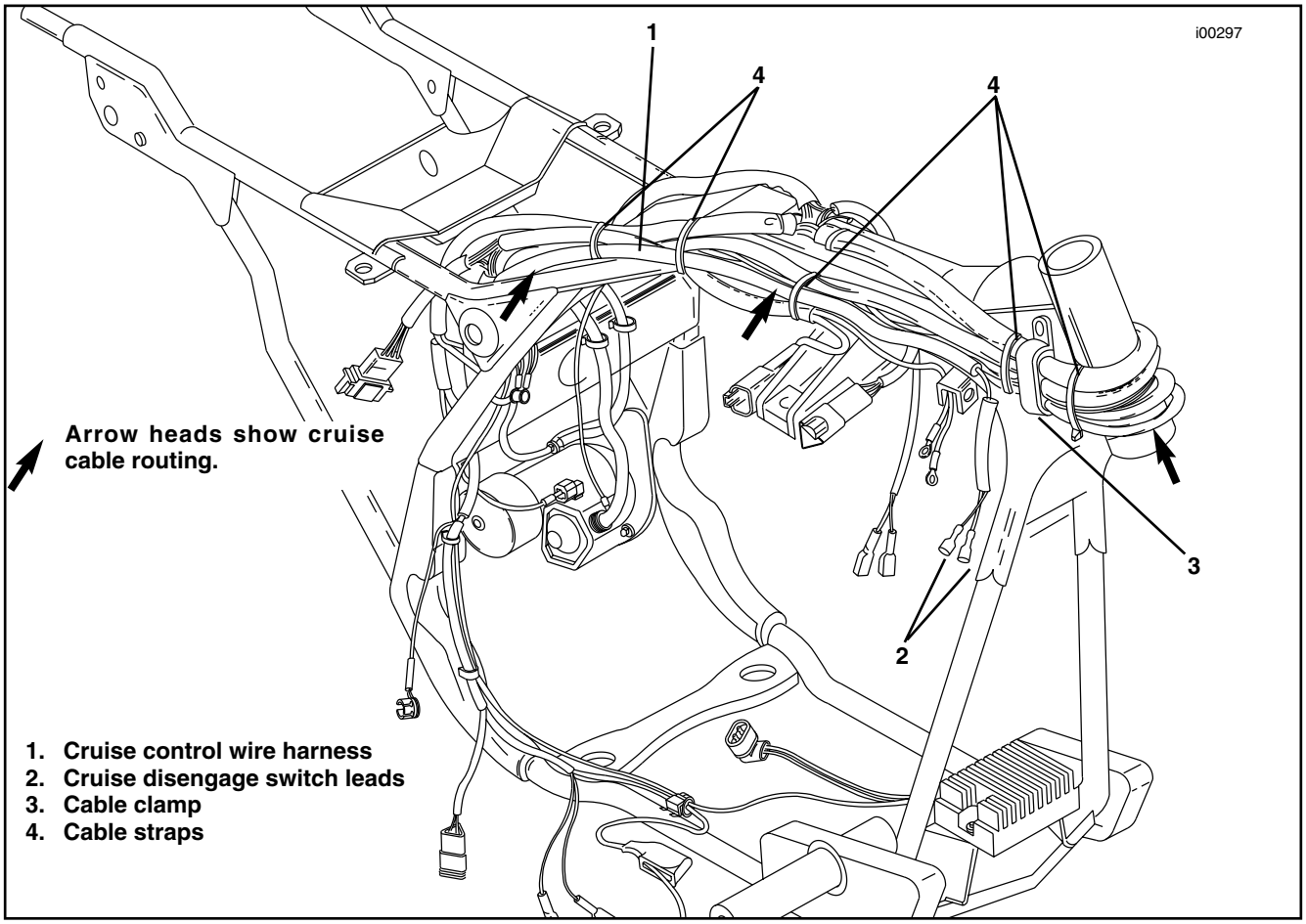


Figure 11. Attachment, Wire Harness to Frame

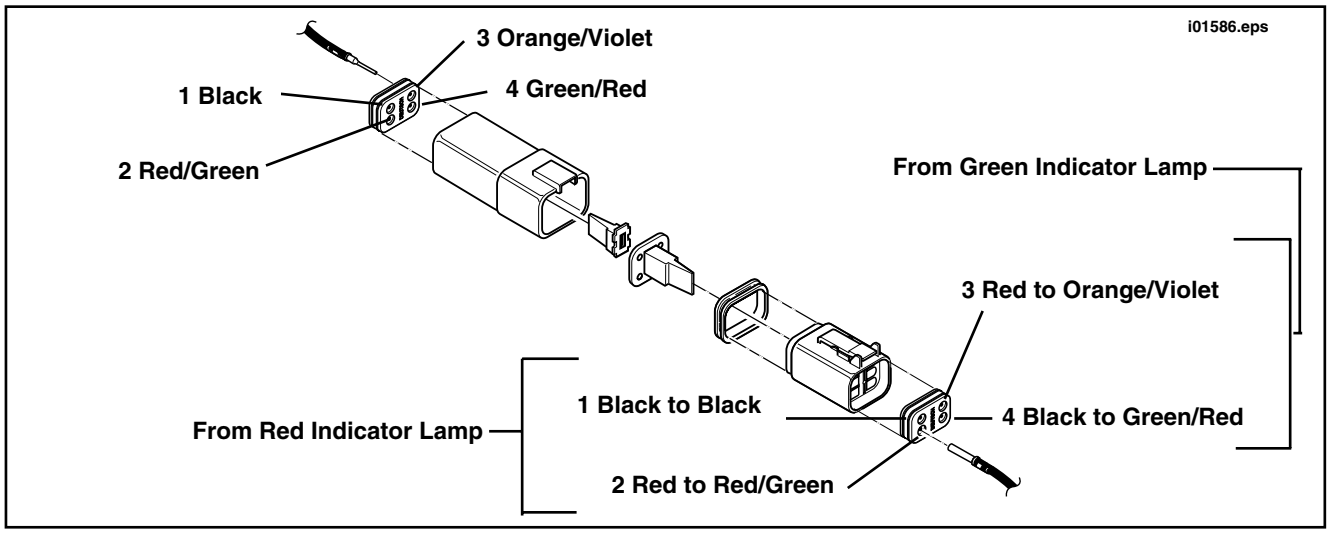


Figure 12. Four Place Connector

FINAL CHECK AND TEST RIDE

1. Check that all connections have been made and that all wiring is properly secured with cable straps.
2. Perform the “Switch Diagnostic Sequence”, in the applicable Service Manual, before installing fuel tank, outer fairing, left side cover, and left saddlebag.

⚠WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion resulting in personal injury.

3. To perform the tests reconnect battery, positive cable first.

⚠WARNING

To avoid accidental start-up of motorcycle, and possible personal injury, disconnect the battery cables (negative cable first) before performing any of the following procedures. If the battery should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion resulting in death or serious personal injury.

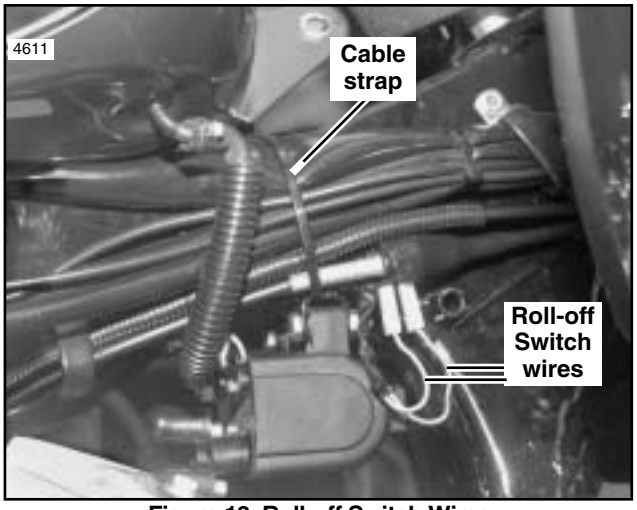


Figure 13. Roll-off Switch Wires

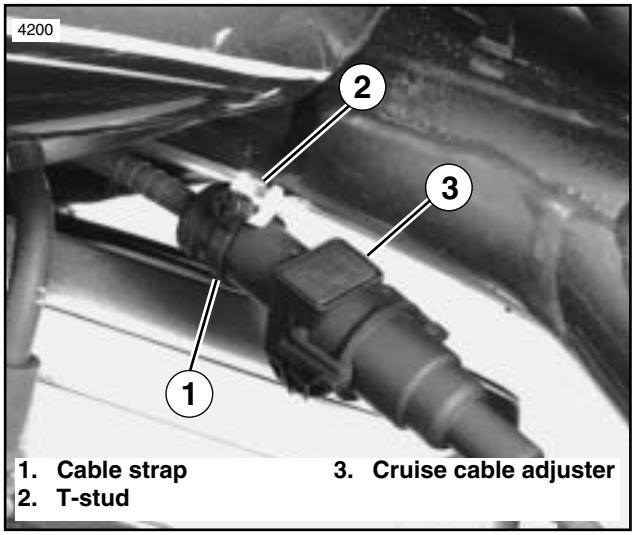


Figure 14. Cruise Cable Attachment to Frame

4. After tests are completed disconnect battery, negative cable first.

5. Install fuel tank, left side cover, headlamp and left saddlebag.

⚠WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion resulting in death or serious injury.

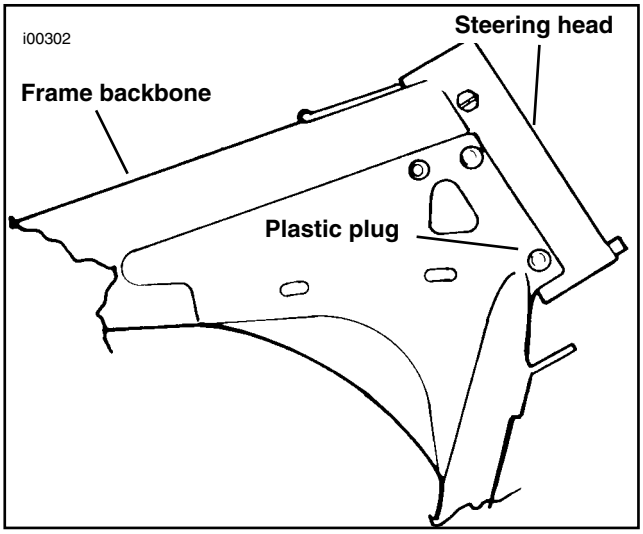


Figure 15. Remove Plug From Frame

6. Connect battery, positive cable first.

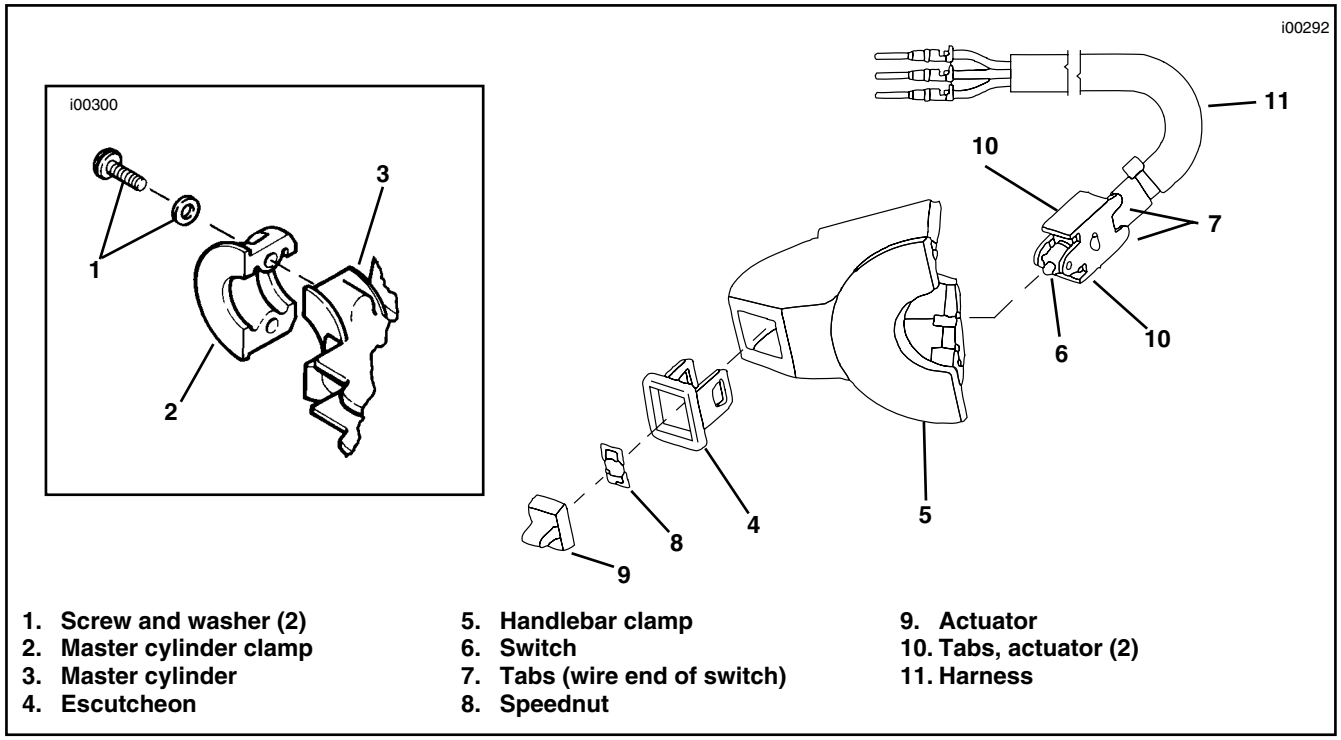
7. Install seat.

⚠WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could result in shifting during vehicle operation, loss of control of vehicle, death or serious injury.

8. Refer to cruise control section in Owner's Manual for cruise control operating instructions.

9. Test ride motorcycle and verify cruise control is operating properly.



1. Screw and washer (2)
2. Master cylinder clamp
3. Master cylinder
4. Escutcheon
5. Handlebar clamp
6. Switch
7. Tabs (wire end of switch)
8. Speednut
9. Actuator
10. Tabs, actuator (2)
11. Harness

Figure 16. Installing Set / Resume Switch

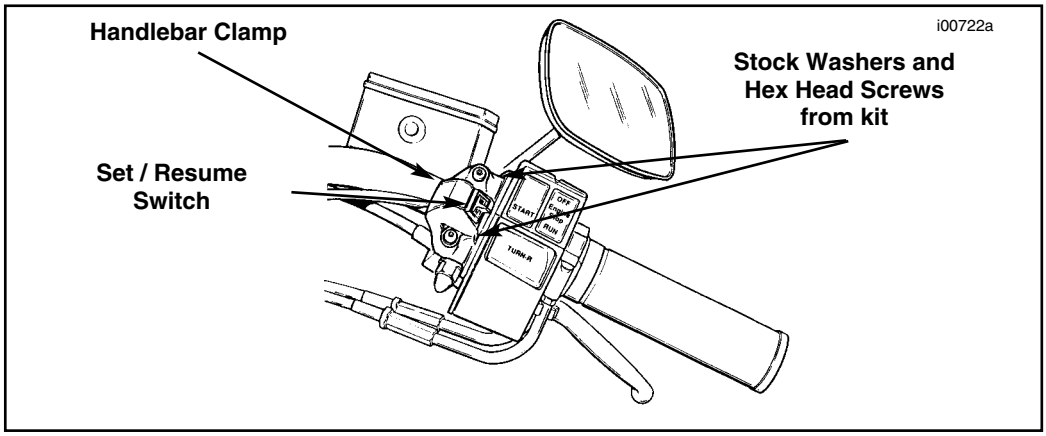
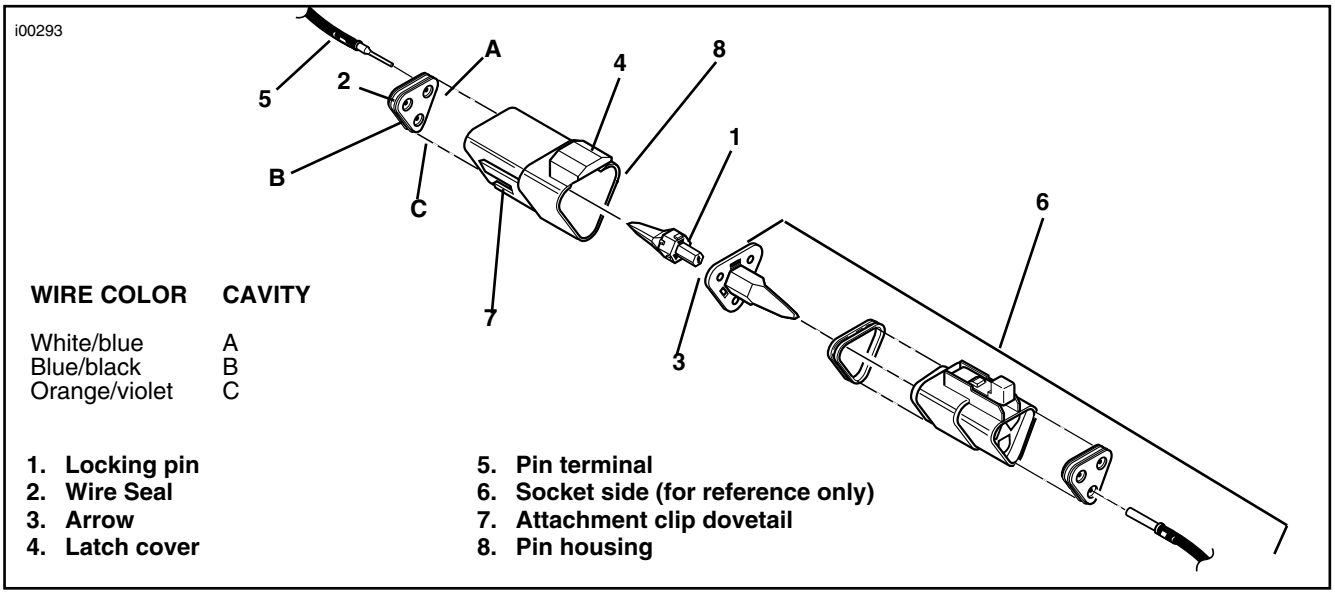


Figure 17. Set / Resume Switch Attachment

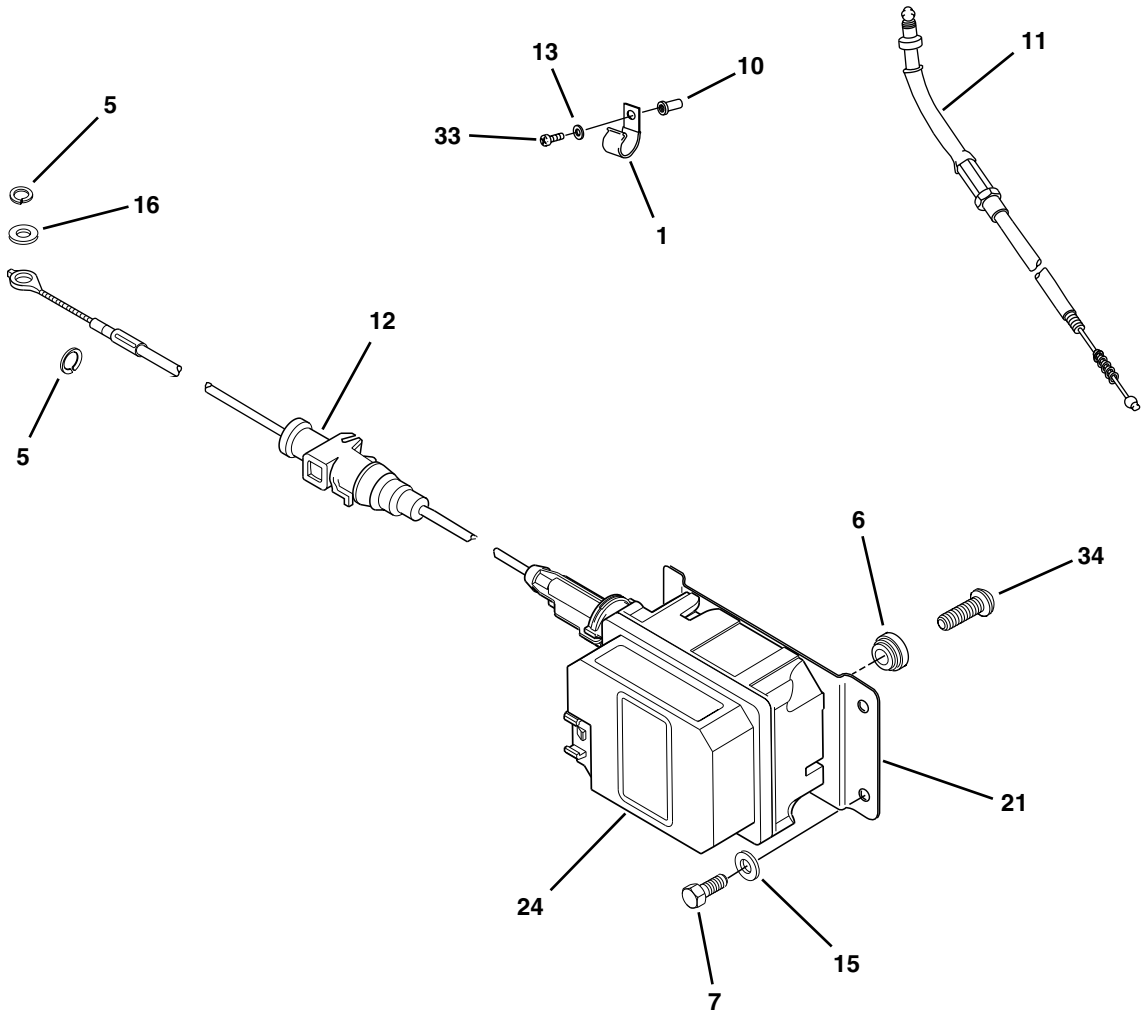


WIRE COLOR	CAVITY
White/blue	A
Blue/black	B
Orange/violet	C

1. Locking pin
2. Wire Seal
3. Arrow
4. Latch cover
5. Pin terminal
6. Socket side (for reference only)
7. Attachment clip dovetail
8. Pin housing

Figure 18. Set / Resume Switch Connections

77127-93C



Item	Description (Qty)	Part No.	77173-99	77174-99	77175-99	77208-99	77209-99	77210-99	77211-99
1	J-clamp	10003	X	X	X	X	X	X	X
2	Cable straps (11), 15 inch, not shown	10039	X	X	X	X	X	X	X
3	Cable straps (3), 5 inches, not shown	10073	X	X	X	X	X	X	X
4	T-stud clip, not shown	10133	X	X	X	X	X	X	X
5	Retaining rings (2)	11193	X	X	X	X	---	X	---
6	Grommets (3)	11497	X	X	X	X	X	X	X
7	Hex capscrews (3), 1/4-20 x 5/8	3767B	X	X	X	---	---	---	---
8	Buttonhead screws (2), not shown	4033	X	X	X	X	X	X	X
9	Handlever clamp, not shown	45043-89	X	X	X	X	X	X	X
10	Well nut	5207	X	X	X	X	X	X	X
11	Idle control								
		56237-99	X			X	X		
		56228-99		X				X	X
		56236-99			X				
12	Stepper cable								
		56405-98	X	X	X				
		56372-97				X		X	
		56372-98					X		X
13	Washer, 5/8 x 13/64 x 3/64	6047	X	X	X	X	X	X	X
14	Conduit, 1/4 in. ID x 12 inches, not shown	63574-94	X	X	X	X	X	X	X
15	Washer, 1/4 x 5/8 x 1/16	6703	X	X	X	---	---	---	---
16	Washer, #10 x 1/2 x 3/64	6716	X	X	X	X	---	X	---
17	Washer, #6 x 3/8 x 3/64, not shown	6717	X	X	X	X	X	X	X
18	Green indicator lamp assembly, not shown	68040-99	X	X	X	X	X	X	X
19	Red indicator lamp assembly, not shown	68161-99	X	X	X	X	X	X	X
20	Cruise control harness, not shown	70141-99	X	X	X	X	X	X	X
21	Cruise module adapter bracket	70183-98	X	X	X	---	---	---	---
22	Conduit, .133 in. ID x 30 inches, not shown	70530-89	X	X	X	X	X	X	X
23	Sealed butt splice, not shown (2)	70586-93	X	X	X	X	X	X	X
24	Cruise module	70989-98	X	X	X	X	X	X	X
25	Pin housing, 3-place, not shown	72103-94BK	X	X	X	X	X	X	X
26	Pin housing, 4-place, not shown	72104-94BK	X	X	X	X	X	X	X

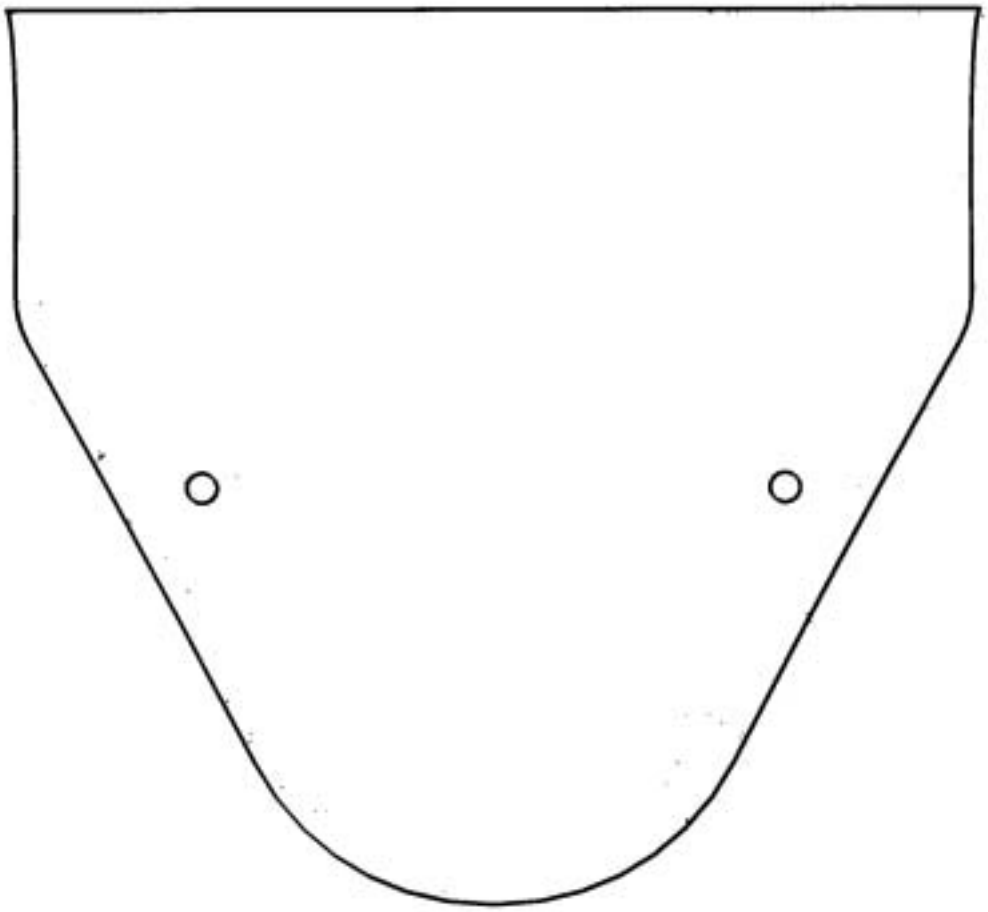
spxxxxx

Item	Description (Qty)	Part No.	77173-99	77174-99	77175-99	77208-99	77209-99	77210-99	77211-99
27	Secondary lock, 3-place, not shown	72143-94	X	X	X	X	X	X	X
28	Secondary lock, 4-place, not shown	72144-94	X	X	X	X	X	X	X
29	Flange locknut, not shown	7716	X	X	X	---	---	---	---
30	Set/resume switch, not shown	77101-90B	X	X	X	X	X	X	X
31	Pushnuts (2), not shown	7905	X	X	X	X	X	X	X
32	Blind rivet, not shown	8625	X	X	X	X	X	X	X
33	Machine truss screw	933	X	X	X	X	X	X	X
34	Truss screw, M6 x 1	958	X	X	X	---	---	---	---
35	Wire harness retainer, not shown	56073-83	---	---	---	X	X	X	X
36	Wire harness retainer, not shown	70345-84	---	---	---	X	X	X	X
37	Flanged locknuts (3), not shown	7499	---	---	---	X	X	2	X
38	Nut, nylon insert, 10-24 (4), not shown	7624	X	X	X	----	---	---	---

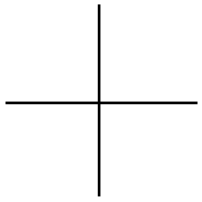
Drill Templates

i01416

HANDLEBAR CLAMP TEMPLATE



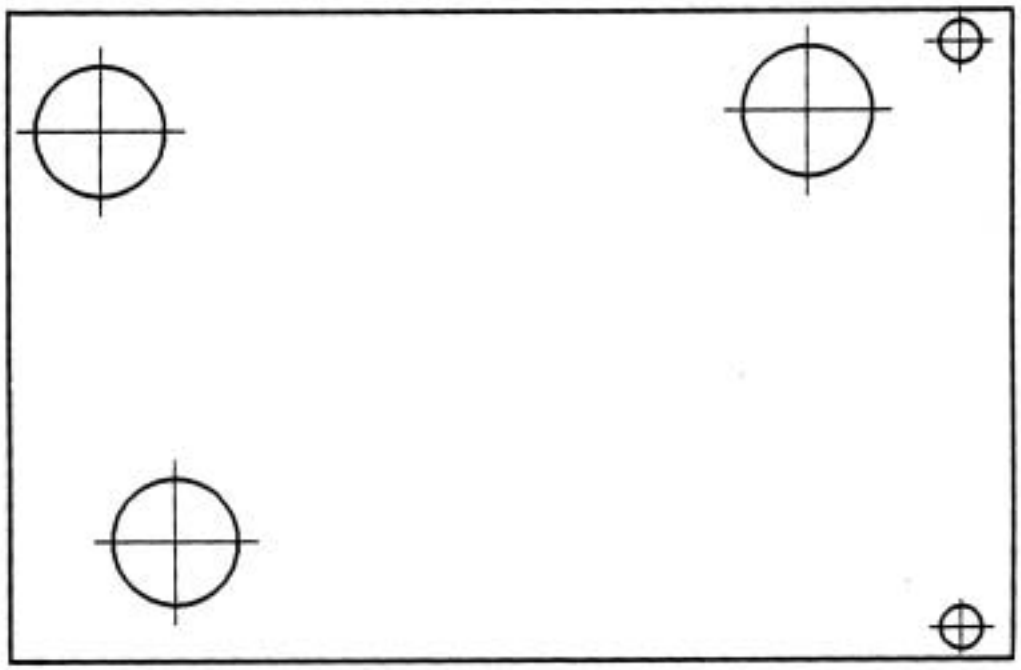
NOTE
These marks should measure exactly 1 inch in each direction. Please measure to verify that this template is the correct size.



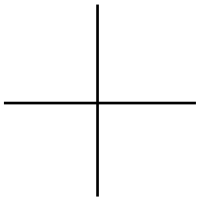
FUSE BLOCK TEMPLATE

1. Locate Template using three large holes.

2. Drill (2) 7/32 diameter holes as shown.



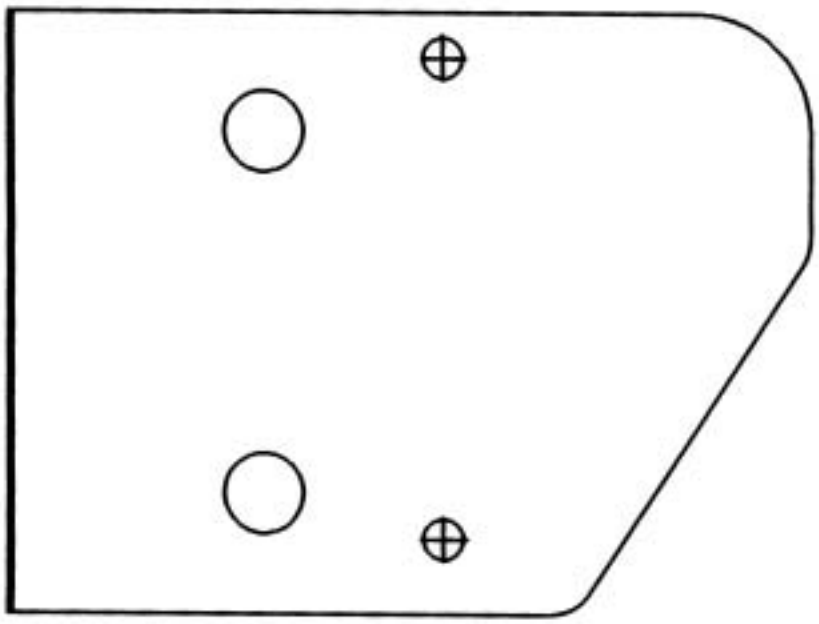
NOTE
These marks should measure exactly 1 inch in each direction. Please measure to verify that this template is the correct size.



BRAKE AND STARTER RELAY TEMPLATE

1. Locate template using two large holes.

2. Drill (2) 7/32 diameter holes as shown.



NOTE
These marks should measure exactly 1 inch in each direction. Please measure to verify that this template is the correct size.